Listing of Claims:

1. (Withdrawn) A method for checking data in communication between a transmitting device and a receiving device, the method comprising:

calculating a first reference value at least partly based on a first error check value calculated from the data and a first authentication value for the data; and

transmitting said first reference value from said transmitting device to said receiving device.

2. (Withdrawn) The method according to claim 1, further comprising the steps of:

calculating a second error check value from the data;

deriving a second authentication value for the data;

calculating a second reference value at least partly based on a first and a second value from a set of said second error check value, said second authentication value and said first reference value; and

comparing said second reference value with a third value from the set of said second error check value, said second authentication value and said first reference value.

3. (Withdrawn) The method according to claim 1, wherein the data comprises packets which is sent from a transmitter to a receiver and said first reference value is added to a packet which is sent.

4. (Withdrawn) The method according to claim 3, wherein the data is sent in a cellular system.

5. (Withdrawn) The method according to claim 1, wherein said calculation is performed with an exclusive-OR function.

6. (Withdrawn) The method according to claim 2, wherein said first and second authentication values are derived at least partly based on a secret key.

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7. (Withdrawn) The method according to claim 3, wherein said first authentication value is derived at least partly based on a packet number.

8. (Withdrawn) The method according to claim 3, wherein said first authentication value is derived at least partly based on a direction of the packet which is transmitted.

9. (Withdrawn) The method according In claim 2, wherein said first and second error check values are CRC values.

10. (Withdrawn) The method according to claim 2, wherein said first and second authentication values are calculated at least partly based on the data.

11. (Withdrawn) A transmitter, comprising:
    means for deriving an authentication value from the data to be transmitted;
    means for deriving an error check value from the data to be transmitted;
and
    means for combining said authentication value and said error check value with a logical function for producing a first reference value.

12. (Withdrawn) The transmitter according to claim 11, wherein said logical function is exclusive-OR.

13. (Currently Amended) A receiver for receiving data from a transmitter over a telecommunications network, the receiver having means for checking received data, said receiver comprising:
    means for deriving a first reference value from the data received over the telecommunications network;
    means for calculating an error check value from the data received over the telecommunications network;

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means for deriving an authentication value for the data received over the telecommunications network;

means for calculating a second reference value at least partly based on a first and a second value from a set of said error check value, said authentication value and said first reference value; and

means for comparing said second reference value with a third value from the set of said error check value, said authentication value and said first reference value ~~to determine~~ determining whether the received data has changed during transmission over the network.

14. (Previously Presented) The receiver according to claim 13, wherein the receiver is arranged to perform a logical function exclusive-OR.

15. (Withdrawn) A mobile station, comprising:

a transmitter that comprises:

means for deriving a first authentication value from data to be transmitted;

means for deriving a first error check value from the data to be transmitted; and

means for combining said first authentication value and said first error check value with a logical function for producing a first reference value (204); and

a receiver that comprises:

means for deriving a first reference value from received data;

means for calculating a second error check value from the received data;

means for deriving an authentication value for the received data, said authentication value being a second authentication value;

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means for calculating a second reference value at least partly based on a first and a second value from a set of said second error check value, said second authentication value and said first reference value; and

means for comparing said second reference value with a third value from the set of said second error check value, said second authentication value and said first reference value.

16. (Withdrawn) The station according to claim 15, wherein the mobile station is arranged to perform the logical function exclusive-OR.

17. (Canceled)

18. (Canceled)

19. (Canceled)

20. (Canceled)

21. (Canceled)